

## CLAIMS

1. A method of monitoring expression of a chosen gene, wherein accumulation of a molecule that varies a NMR signal and can be quantified by NMR, without the requirement to add an exogenous substrate.
2. The method of monitoring an expression of a chosen gene according to claim 1, wherein the molecule that varies the NMR signal and can be quantified by NMR is a polyphosphate.
3. The method of monitoring expression of a chosen gene according to claim 2, wherein the polyphosphate is a polyphosphate generated by expression of a polyphosphate synthetase gene placed downstream of the chosen gene.
4. The method of monitoring expression of a chosen gene according to claim 2, wherein the polyphosphate is a polyphosphate generated by expression of the polyphosphate synthetase gene placed downstream of the chosen gene in-frame.
5. The method of monitoring expression of a chosen gene according to claim 1, wherein the molecule that varies the NMR signal and can be quantified by NMR is a type of cytochrome.
6. The method of monitoring expression of a chosen gene according to any one of claims 1 to 5, wherein the quantification by NMR is a non-destructive quantification by NMR.

7. The method of monitoring expression of a chosen gene according to any one of claims 1 to 6, wherein the expression of the chosen gene is monitored in real time.

8. The method of monitoring expression of a chosen gene according to any one of claims 1 to 7, wherein the expression level of the chosen gene within a cell, a tissue or an organ is detected.

9. The method of monitoring expression of a chosen gene according to any one of claims 1 to 8, wherein the chosen gene is a target gene of a general transcription factor.

10. A method for screening various types of agents, wherein the method of monitoring expression of a chosen gene according to any one of claims 1 to 9 is used.